

CLAIMS

What is claimed is:

- 5 1. A method of sorting undifferentiated cells, wherein said method comprises contacting undifferentiated cells with an antibody to a cell-surface antigen, and sorting the undifferentiated cells according to the presence or absence of the binding to the antibody.
- 10 2. The method of claim 1, wherein the cell-surface antigen is selected from the group consisting of PECAM-1, SSEA-1, SSEA-3, and SSEA-4.
- 15 3. The method of claim 1, wherein the undifferentiated cells are embryonic stem (ES) cells derived from mammals or embryonic germ (EG) cells derived from mammals.
- 20 4. The method of claim 1, wherein the undifferentiated cells are transgenic.
5. The method of claim 2, wherein undifferentiated cells that bind to antibody to PECAM-1 is sorted out.
- 25 6. The method of claim 5, wherein undifferentiated cells that bind to both an antibody to PECAM-1 and an antibody to SSEA-1 are sorted out.
7. The method of claim 5, wherein undifferentiated cells that bind to an antibody to PECAM-1, an antibody to SSEA-3, and an antibody to SSEA-4 are sorted out.
- 30 8. An undifferentiated cell obtained by the method of any one of claims 5, 6, and 7.

9. An isolated undifferentiated cell binding to an antibody to PECAM-1.
10. An isolated undifferentiated cell binding to an antibody to PECAM-1 and an antibody to SSEA-1.
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11. An isolated undifferentiated cell binding to an antibody to PECAM-1, an antibody to SSEA-3, and an antibody to SSEA-4.
- 10 12. A host embryo comprising the undifferentiated cell of claim 8.
13. The embryo of claim 12, wherein the embryo is constructed by injection of the undifferentiated cell of claim 8 into a fertilized embryo, or aggregation of that undifferentiated cell with a fertilized embryo.
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14. The embryo of claim 12, wherein said embryo is constructed by injection or fusion of the undifferentiated cell of claim 8 to an enucleated unfertilized oocyte.
- 20 15. A differentiated tissue complex derived from the undifferentiated cell of claim 8.
16. The differentiated tissue complex of claim 15, wherein said complex is constructed by inducing differentiation by *in vitro* culture or *in vivo* transplantation of the undifferentiated cell of claim 8.
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17. A surrogate mother comprising the embryo of claim 12.
18. A fetus, baby, or descendants obtained from the surrogate mother of claim 17.
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